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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,466	07/18/2003	Gary S. Dixon	976626-100/001	2973
29484	7590	05/04/2006	EXAMINER	
PATENTMETRIX				CHENG, JACQUELINE
14252 CULVER DR. BOX 914				ART UNIT
IRVINE, CA 92604				PAPER NUMBER
				3768

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/623,466	DIXON ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jacqueline Cheng	3768	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 18 July 2003.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-47 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-47 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 18 July 2003 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>12/24/03</u>	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 5-15, 23, 24, 35, 38-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,740,041 B2 (herein referred to as Faulkner et al) in further in view of US Patent No. 4,631,676 (herein referred to as Pugh) further in view of US Publication No. 2002/0137082 A1 (herein referred to as Lewandrowski et al.).

**Claims 1, 5-14, 24, 35, 38-40:** Faulkner et al. discloses a bone densitometer that accepts additional patient data to produce a more accurate output measurement of a person's risk of osteoporosis. Bone densitometers provide a measurement of a bone characteristic level such as the T-score of a bone mineral density. These measurements are typically taken with x-ray, ultrasound, or tomography (col. 1 line 6-50). The bone densitometer of Faulkner et al., takes into account the risk factors of a patient such as the age of the patient and the patient's history of fractures when determining the patients' risk of fracture. This information is inputted into a computer, which processes and displays the information (col. 2 line 66-col. 3 line 5).

Pugh discloses a video gait system that analyzes a patient's gait so that a therapy or correctable surgery can be suggest to prevent bone deterioration or disorders (col. 1 line 12-24).

Lewandrowski et al. discloses a method of detecting osteoporosis in which a sample of bone related tissues or cells, such as the urine, are used to determine the concentration of a biochemical marker. This biochemical marker concentration in conjunction with a bone mass measurement maybe used to identify people with high bone turnover, or they can be used to identify subgroups of patients to determine which is the best type of therapy for them (abstract, paragraph 0026, paragraph 0035).

It would be obvious to one with ordinary skill in the art at the time of the invention to combine Faulkner et al., Pugh, and Lewandrowski et al. as all these methods are ways of determining the risk factor of a patient for osteoporosis. The results from the video gait system of Pugh and the results from the bone marker concentration of Lewandrowski et al. can be inputted into the system of Faulkner et al. Using this information the doctor can then determine the patient's risk factor of breaking a bone, or of osteoporosis, and the doctor can also prescribe the most proper therapy depending on the patient's result from the combined information.

**Claim 15, 41:** It is obvious to one with ordinary skill in the art at the time of the invention that to obtain information about a biochemical marker, such as deoxypyridinoline from a urine sample, which characterizes bone resorption (Lewandrowski et al., paragraph 0036), the body fluid must be put in a container to be analyzed and to obtain the bone marker level a output must be outputted. Since the result would be the same whether there is a mechanism for holding the container with the sample, or if the container of the sample itself was analyzed without the extra mechanism, the mechanism is not necessary.

**Claim 23:** Lewandrowski et al. discloses measuring the bone mass density from the spine, hip, wrist, hand, heel, or the entire body to evaluate density (paragraph 0028).

**Claim 42:** The system of Faulkner et al. already processes and calculates a bone risk fracture dependent upon multiple factors. It would be obvious to have the computer output a recommendation dependent upon the risk factor result.

3. **Claims 2-4, 36** are rejected under 35 U.S.C. 103(a) as being unpatentable over Faulkner et al. in view of Pugh in view of Lewandrowski et al. as applied to claim 1 and 35 above, and further in view of US Patent No. 6,234,969 B1 (herein referred to as Chaintreuil et al.).

Chaintreuil et al. discloses a bone densitometer having a housing for a foot in which a pair of ultrasonic transducers engages the heel at a controlled pressure. The ultrasonic waves that are detected are used to calculate a quantitative ultrasound index, or a stiffness value (fig. 1, col. 4 line 14-61). It would be obvious to one with ordinary skill in the art at the time of the invention to combine Chaintreuil et al. with Faulkner et al., Pugh, and Lewandrowski et al. as the invention of Chaintreuil et al. is assessing bone characteristics, in helping to determine osteoporosis.

Faulkner et al. also disclosed that typical bone densitometers include ultrasonic ones.

4. **Claims 16, 17 and 37** are rejected under 35 U.S.C. 103(a) as being unpatentable over Faulkner et al. in view of Pugh in view of Lewandrowski et al. as applied to claim 1 and 35 above, and further in view of US Patent No. 4,195,643 (herein referred to as Pratt). Pratt discloses an apparatus for characterizing gait of a subject. To measure and characterize the gait, a person stands on a dual force plate system, which determines the force exerted by the right foot and the left foot. These forces can be compared to determine a difference in the forces exerted by each foot, and determine balance forces of the subject (col. 5 line 61-col. 6 line 14, fig. 3).

Balance forces of a subject can also be measured with one foot off the ground (col. 9 line 62-65).

It would be obvious to one with ordinary skill in the art at the time of the invention to combine Pratt with Faulkner et al, Pugh, and Lewandrowski et al. as Pugh discloses that analyzing gaits helps to detect the deterioration of bones.

5. **Claims 18-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Faulkner et al. in view of Pugh in view of Lewandrowski et al. as applied to claim 1 above, and further in view of US Patent No. 6,803,197 B1 (herein referred to as Uitterlinden et al.). Uitterlinden discloses therapy for treatment of osteoporosis can include modifications to lifestyle, regular exercise, hormone therapy, bisphosphonates, vitamin D and calcium supplements. Since these are well known in the art that it would be obvious that these therapies would be recommended for a patient. It would be obvious to one with ordinary skill in the art at the time of the invention to combine Uitterlinden with Faulkner et al., Pugh, and Lewandrowski et al. as they are all about determining bone deterioration.

6. **Claims 21, 22, 25-32 and 43-47** are rejected under 35 U.S.C. 103(a) as being unpatentable over Faulkner et al. in view of Pugh in view of Lewandrowski et al. as applied to claim 1 above, and further in view of US Patent No. 6,086,538 (herein referred to as Jorgensen et al.). Jorgensen et al. discloses a method of evaluating the status of bone tissue useful in the diagnosis of osteoporosis. In this method Jorgensen et al. also discloses that it is beneficial to generate a historical record of the changes in some property of the individual patient's bone and make a diagnosis on basis of historical trends. The time period and frequency in which the future

measurements are taken are dependent upon what a doctor chooses and can be in any time period and any frequency and of whichever types of measurement the doctor wishes to follow. It could also depend on the therapy the doctor prescribes. The future measurements could be used to monitor the progress of the therapy.

As for the order and the extent of the analysis of the measurements that are done, they result in the same end result of the characterization of risk factor. The order in which the tests are done would not make a difference. It would be obvious to one skilled in the art at the time of the invention to try to get the most accurate and thorough diagnosis in order to prescribe the most proper therapy and to take into account the results of previous measurements. Faulkner et al.'s invention most embodies this with the ability to input other results and factors of osteoporosis into the computer.

It would be obvious to one with ordinary skill in the art at the time of the invention to combine Jorgensen et al. with Faulkner et al., Pugh and Lewandrowski et al. as they are all trying to determine osteoporosis risk for a patient.

### *Conclusion*

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacqueline Cheng whose telephone number is 571-272-5596. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eleni Mantis-Mercader can be reached on 571-272-4740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JC



**GLENI MANTIS-MERCADER**  
PRIMARY EXAMINER